

[COMPOSITION OF NANO-TUBE COMPOSITE POLYMER ELECTROLYTE AND FABRICATION METHOD THEREOF]

Abstract

This invention pertains to the composition and method for fabricating nano-tube composite polymer electrolyte. The composite polymer electrolyte is made by blending suitable amount of highly dispersed, nano-tube, such as titanium dioxide (TiO_2), with highly amorphous polymer electrolyte, such as polyethylene oxide. The hollow nano-tube structure facilitates salt dissociation, serves temporarily storage for lithium ions, creates new conducting mechanism and improves the conductivity thereof. The subsequent thermal treatment and high electric field arrange the nano-tubes in order for increase of the dielectric constant thereof, which increased ion mobility at room temperature. The mechanical properties are also improved due to the physical cross-linking of the nano-tubes, suitable for industrial processing.